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(54) Vending machine for cut flowers

(57) A retail furnishing for cut flowers has a cooled housing in which a turret with holders is arranged. Each holder has a plurality of compartments placed one above another which are each provided with a reservoir for water for the flowers. The purchaser can bring the

desired compartment behind a removal opening by operating keys. The removal opening can be unlocked by inserting coins of appropriate value. Because only one compartment is accessible, the possibility of fraud is excluded.

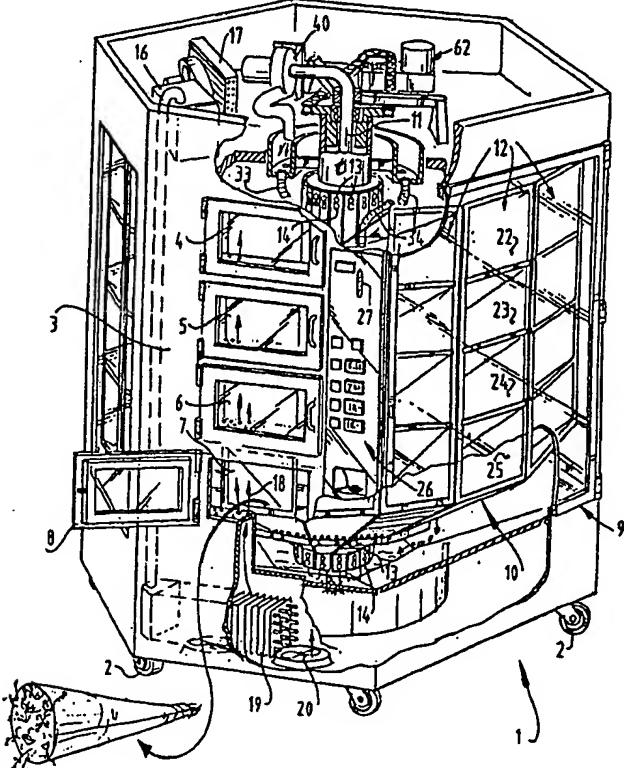


FIG.1

Description

The invention relates to a furnishing for retailing purposes, particularly for cut flowers, comprising a housing with closable removal openings, cooling means, holders sub-divided into compartments and means for placing a compartment at choice in a position behind one of the removal openings, and wherein each compartment contains a water reservoir.

Such a retailing means is known from FR-A-2 253 349.

Such retailing furnishings are often placed in petrol filling stations, shopping centres and the like.

The known retailing furnishing is suitable for pot plants. These plants must be placed upright in the associated compartment.

This retailing furnishing is not suitable for bunches of cut flowers which are placed lying in a compartment. When placed in the compartment of the known retailing furnishing, a bunch of cut flowers is largely submerged in the water.

The invention has for its object to obviate this drawback. This is achieved by the invention in that the water reservoir is formed by a bottom, at least a part of which is arranged slopingly, and side wall parts of a compartment connecting thereto.

According to the invention is achieved that only the bottom end of the stalks of a bunch of cut flowers lying on the bottom comes into contact with the water. The total available space in vertical direction is moreover used very efficiently since each compartment, as seen in the height, need hardly exceed the thickness of a bunch of cut flowers.

Further advantages and special features of the retail furnishing according to the invention will become apparent from the annexed drawings and accompanying description.

In the drawings:

Fig. 1 shows a perspective view of a retail furnishing according to the invention.

Fig. 2 is a top view of the embodiment according to fig. 1.

Fig. 3 shows a sectional view of the retail furnishing according to fig. 1.

Fig. 4 shows a perspective view of a holder in the retail furnishing according to the invention, and

Fig. 5 shows an alternative embodiment of the invention.

The retail furnishing 1 is of polygonal shape, in the present case hexagonal. According to the embodiment of fig. 1 the retail furnishing can travel on rollers 2, although a fixed arrangement is also possible (fig. 5). Of the side walls, side wall 3 is provided with removal openings 4, 5, 6 and 7. These removal openings can be closed and locked by means of a door, for instance 8. An access door 9 is arranged hingedly on an adjacent side wall. This door 9 serves for filling of the retail furnishing. The fur-

nishing comprises a turret 10 formed by a hub rotatable round a shaft 11 and driven by means of the drive motor 62. Vertically standing holders 12 arranged in columns are placed on the hub 10 and are fixed releasably to the hub via a pin-hole connection 13, 14. The retail furnishing further contains cooling means consisting of a compressor 16 and a condenser 17. Using the cooling means a cooling curtain 18 (fig. 3) is generated along the wall part containing the access openings. The evaporator 19 also forms part of the cooling system. By means of the booster fan 20 cooled air is spread through the housing of the retail furnishing. Gas discharge tubes 21 are arranged for lighting. The holders each consist of a plurality of compartments 22, 23, 24, 25 placed one above another. A bunch of flowers is placed in each compartment. By rotating the turret the desired compartment can be carried behind one of the access openings 4, 5, 6 or 7. After unlocking of the relevant access door the bunch of flowers can be taken out. The selection mechanism is arranged on a panel 26 where control keys are arranged to bring about rotation of the turret to the left or the right and to unlock one of the, in the present embodiment, four access doors. The control mechanism can only be set into operation after insertion into the slot 27 of the appropriate number of coins or optionally a credit card or chip card.

In order to supply a sufficient quantity of water to the stalk ends of each bunch, the bottom of each compartment runs at a slope, for instance 27, 28, 29, 30. The bottom is bounded on the sides by side walls (fig. 4) for instance 31 and 32. Each compartment is thus formed by a closed unit tapering in a wedge shape toward the middle. By means of the water supply conduits 33, 34 water is fed to the top compartments. Apertures 35, 36, 37, 38 are arranged in the bottom of each compartment at a distance from the centre, which apertures function as an overflow for water. Due to this provision the amount of water in each compartment thus remains limited. The excess water runs into a water reservoir 39 placed in the bottom of the furnishing and, using the pump 40 which forms part of a recirculation system, is subsequently pumped up through the shaft 11 and at the top fed once again into the top compartment. A filter 41 is placed at the interface on the underside between the reservoir and the shaft 11. The water is cleaned using this filter 41.

According to the embodiment of fig. 5 the furnishing is built into a wall and the access door is placed on the one side and the access openings on the other side of the wall 42. In the embodiment of fig. 5 the upper compartments are further substituted by a horizontally disposed compartment 43, 44. Such horizontally disposed compartments are suitable for accommodating plant boxes, flower pots and the like.

According to the invention fraudulent actions are impossible since only a closed compartment is accessible to the purchaser. In addition an optimum spatial arrangement is obtained since the dimensions of each compartment are limited to the size of a bunch of flowers. It is further ensured that while in a compartment the flow-

ers are provided with sufficient water, while the temperature inside the retail furnishing can be optimized with a view to the shelf-life.

Claims

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1. Furnishing for retailing purposes, particularly for cut flowers, comprising a housing with closable removal openings, cooling means, holders sub-divided into compartments and means for placing a compartment at choice in a position behind one of the removal openings, characterized in that the water reservoir is formed by a bottom, at least a part of which is arranged slopingly, and side wall parts of a compartment connecting thereto. 15
2. Furnishing for retailing purposes as claimed in claim 1, characterized by means for supplying water to the water reservoirs. 20
3. Furnishing for retailing purposes as claimed in claim 2, characterized in that the holders are disposed vertically in parallel columns, a plurality of compartments are placed one above another in each of the holders, supply means for water are connected to the top compartment and in the bottom of each compartment passage openings are arranged at a distance from the lowest point of the sloping bottom. 25
4. Furnishing for retailing purposes as claimed in claims 1-3, characterized in that the holder is arranged in a turret driven by a motor. 30
5. Furnishing for retailing purposes as claimed in claim 4, characterized in that below the lowest compartment is placed a water collecting reservoir included in a recirculation circuit. 35
6. Furnishing for retailing purposes as claimed in claims 1-5, characterized in that the closing door of a removal opening can be unlocked by means of a coin or credit card sales mechanism. 40
7. Furnishing for retailing purposes as claimed in claims 1-6, characterized in that the housing is polygonal, one of the walls of the polygon has the removal openings and an opposite wall has an access door for filling the compartments. 45
8. Furnishing for retailing purposes as claimed in claims 1-7, characterized in that the holders are placed releasably in the turret. 50
9. Furnishing for retailing purposes as claimed in claims 1-8, characterized by means for generating a cooling air flow along the wall part containing the removal openings. 55

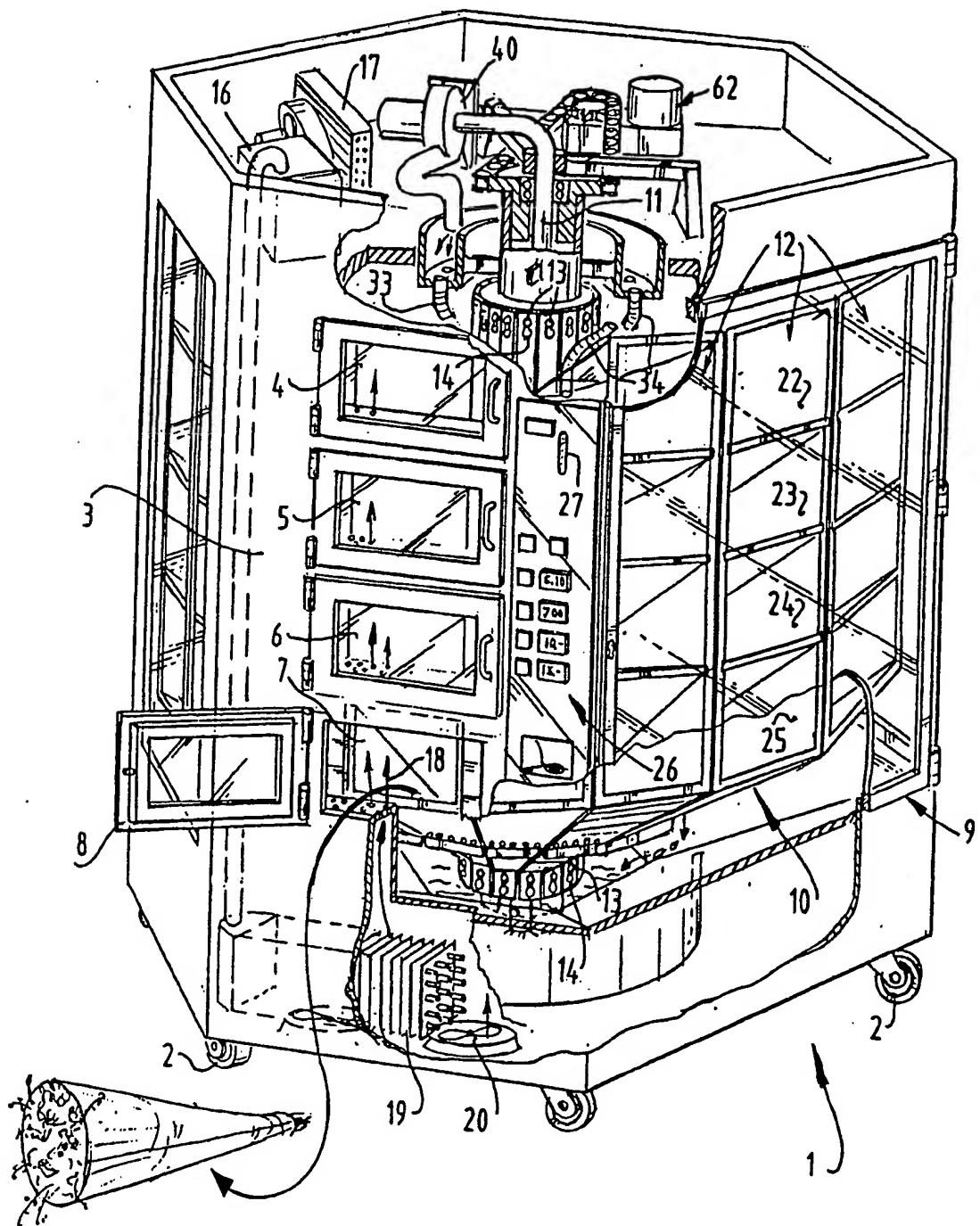


FIG.1

FIG.2.

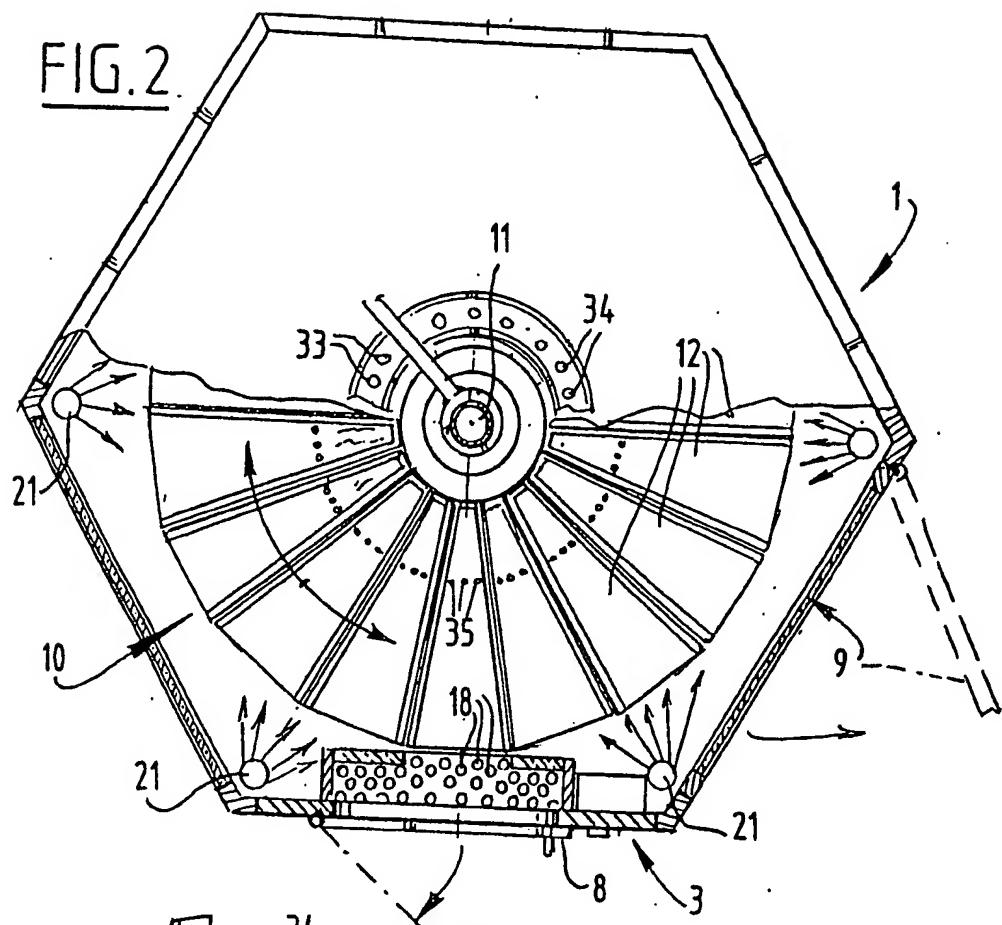
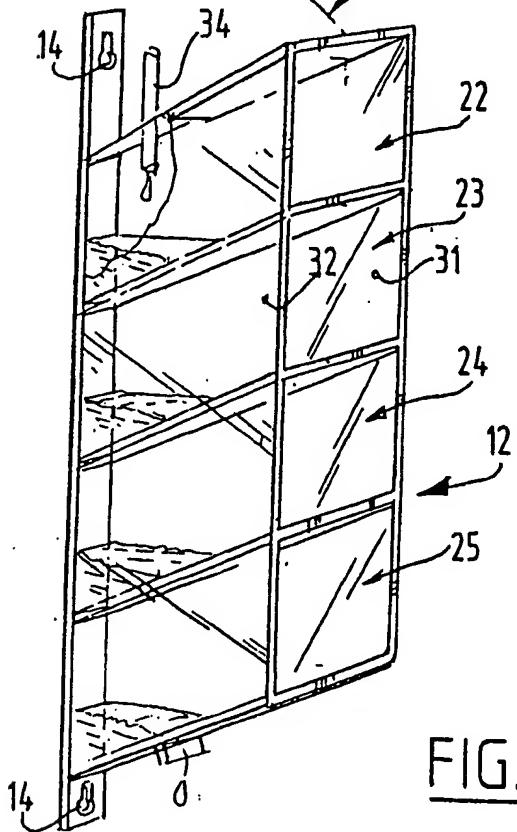


FIG.4



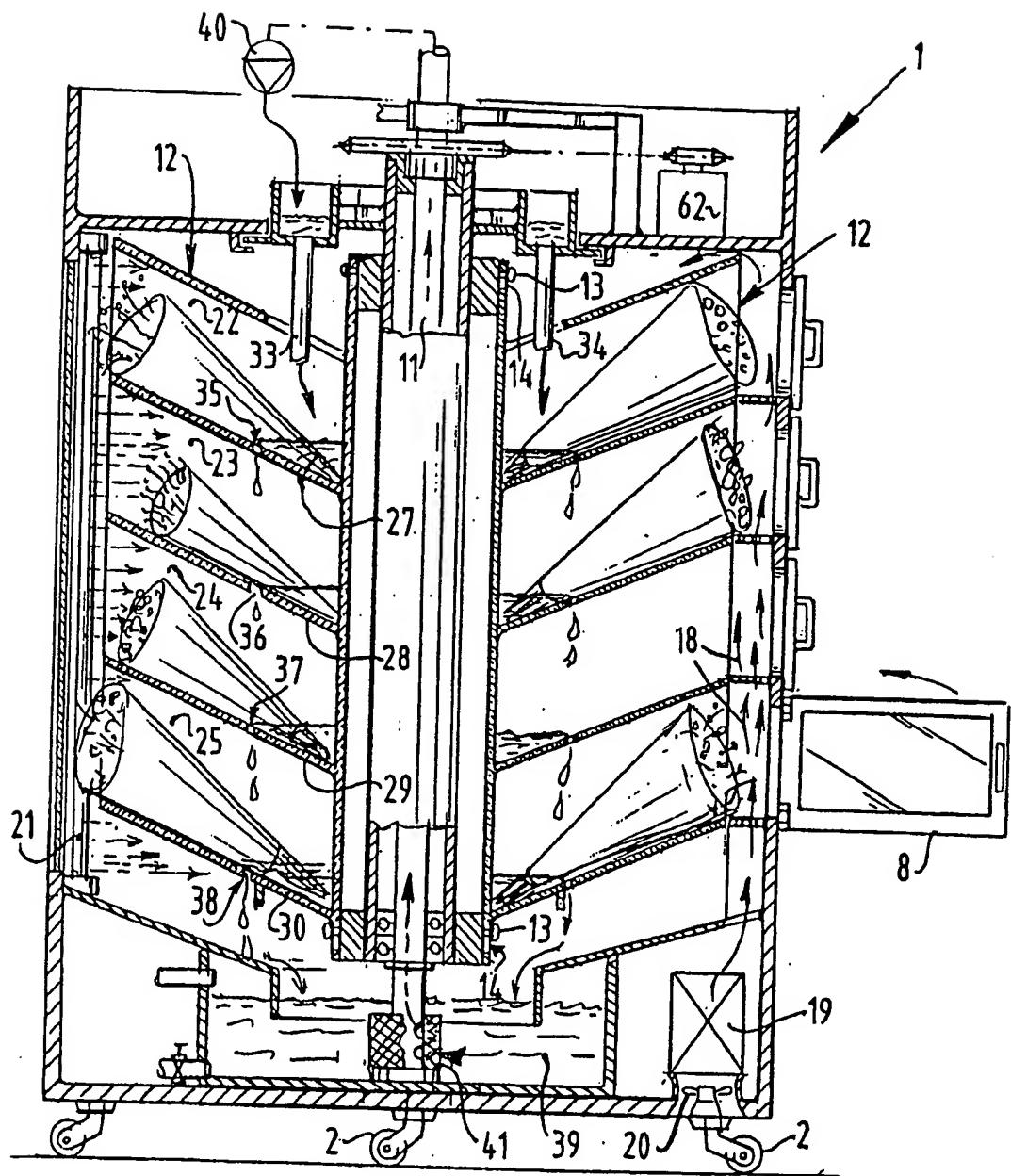
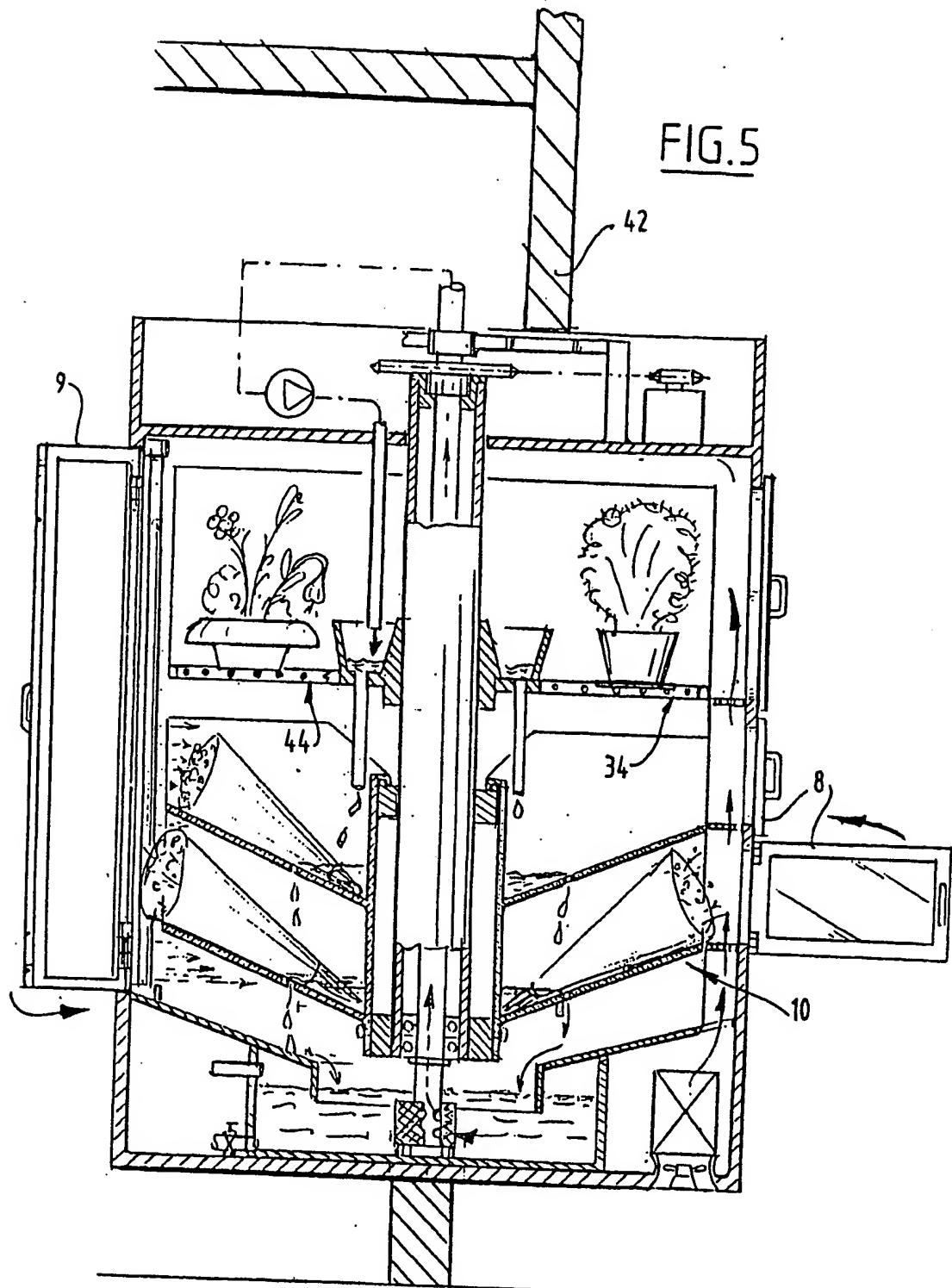


FIG.3





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EUROPEAN SEARCH REPORT

Application Number
EP 95 20 2940

DOCUMENTS CONSIDERED TO BE RELEVANT									
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)						
X	FR-A-2 253 349 (GRANDI) 27 June 1975	1,2,6,7	G07F11/62						
Y	* page 2, line 4 - page 3, line 11; figures *	3,4,8,9	G07F11/54						
A	---	5	G07F11/00						
Y	US-A-3 336 773 (OECHSLIN) 22 August 1967	3							
A	* column 2, line 42 - column 3, line 63; figures 1-4 *	1,2,5,6							
Y	FR-A-1 151 210 (TELEFONBAU UND NORMALZEIT) 27 January 1958	4,8							
A	* page 2, left column, line 20 - right column, line 2; figures 1-6,10 *	1,2,6,7							
A	---	2,3,8							
Y	WO-A-93 15480 (WITTENBORG A/S) 5 August 1993	9							
A	* page 7, line 11 - page 8, line 13; figure 2 *	1,4,6,7							

TECHNICAL FIELDS SEARCHED (Int.Cl.6)									
G07F									
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>24 January 1996</td> <td>Neville, D</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	24 January 1996	Neville, D
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THE HAGUE	24 January 1996	Neville, D							
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>									